

Infrastructure, environment, buildings

EPA Region 5 Records Ctr.

Mr. Jeffrey A. Leed Leed Environmental, Inc. Van Reed Office Plaza 2209 Quarry Drive, Suite C-35 Reading, PA 19609 ARCADIS G&M, Inc. 35 E. Wacker Drive Suite 1000 Chicago IL 60601 Tel 312 263 6703 Fax 312 263 7897

ENVIRONMENTAL

Subject:

Monitoring Well Abandonment Report NL Industries/Taracorp Site, Granite City, IL

Dear Mr. Leed:

On behalf of the NL Industries/Taracorp Superfund Site Group (Group), ARCADIS respectfully submits this report documenting the abandonment of eighteen (18) monitoring wells at the NL Industries/Taracorp Site (Site) in Granite City, Illinois. There were a total of thirty-five (35) monitoring wells associated with previous groundwater investigations at the Site. In February 2005, the Group and ARCADIS submitted a request to the U.S. Environmental Protection Agency (U.S. EPA) to abandon selected groundwater monitoring wells at the site. Following review and approval by the U.S. EPA in March 2005, ARCADIS abandoned 18 of the 35 monitoring wells at the site. The monitoring wells were selected for abandonment based on the results of previous groundwater sampling which indicated that constituents of concern were below laboratory detection limits. The wells that were abandoned included 12 monitoring wells at or adjacent to the Main Industrial Site, 3 wells in Eagle Park Acres, and 3 wells in Venice Township. The following letter report documents the abandonment activities.

Monitoring Well Abandonment

After approval was received from the U.S. EPA, ARCADIS and Leed Environmental, Inc. notified the property owners following the appropriate written and verbal methods outlined in the property access agreements that were obtained prior to installation of the monitoring wells.

After notification was made to the property owners, abandonment activities were initiated. ARCADIS performed monitoring well abandonment activities on July 12 and 13, 2005. The monitoring wells were abandoned according to the Illinois Water

Date:

12 September 2005

Contact

Adam Tokarski

Phone:

312-425-4133

Email:

atokarski@arcadisus.com

Our ref:

CI001003.0008

ARCADIS

Well Construction Code (77 Ill. Adm. Code 920, Section 920.120) by a licensed water well driller. The following procedures were followed during well abandonment activities for monitoring wells MW-102, MW-106S, MW-106D, GMMW-116S, GMMW-116D, GMMW-117, GMMW-118, GMMW-119, GMMW-120, GMMW-121, GMMW-122, GMMW-123, and GMMW-126.

- The total depth of each well was gauged prior to backfilling with bentonite chips, to determine the correct amount of seal material required.
- A one inch PVC pipe was lowered into the well to prevent bridging of the backfill material. The bentonite chips were slowly poured into the well.
- The PVC well casing was removed at least 2 feet below land surface (bls) and the flush mounted well box or stickup well protector, and well bumper posts (if present) were removed.
- A six inch to 1 foot thick concrete cap was poured two feet bls on top of the removed well casing with a diameter larger than the well casing or borehole.

The following procedures were followed during the well abandonment activities for monitoring wells GMMW-115S, GMMW-115D, GMMW-124S, GMMW-124D, and GMMW-125 located on the former National Steel property (currently Cara Metals Illinois). These specific wells were abandoned using over drilling procedures.

- The flush mounted well box was removed with the drill rig.
- The monitoring well casing was over drilled with a hollow stem auger drill rig.
- After the augers were advanced to the bottom of the monitoring well, the well casing and screen were removed from the augers and then the augers were pulled from the subsurface.
- The bore hole was backfilled with bentonite grout that was premixed and injected from the bottom of the bore hole to the surface using a tremie pipe.

The following monitoring wells remain at the site for use in the long-term groundwater monitoring program: MW-101, GMMW-103R, GMMW-104, GMMW-105S, GMMW-105D, MW-107S, MW-107D, GMMW-108S, MW-108D, GMMW-108X, GMMW-109S, GMMW-109D, GMMW-109X, GMMW-112S, GMMW-112D, GMMW-113S, and GMMW-113D.

Mr. Jeffrey A. Leed 12 September 2005

ARCADIS

Closing Remarks

Photographs documenting the monitoring well abandonment are included in Enclosure 1. Copies of the required Illinois Department of Public Health water well sealing forms are provided in Enclosure 2. The original water well sealing forms were sent to the Madison County Health Department on August 4, 2005.

If you have any questions or comments concerning the monitoring well abandonment activities, please do not hesitate to contact us.

Sincerely,

ARCADIS, G&M, Inc.

Adam Tokarski Project Geologist

Jack Kratzmeyer
Principal Engineer

Enclosures (2): Photographs

Water Well Sealing Forms



Photograph of monitoring well GMMW-122 after plugging with bentonite chips and removal of the well box.



Photograph of monitoring well GMMW-122 after plugging with bentonite chips and removal of the well box.



Monitoring well GMMW-119 after plugging with bentonite.



Monitoring well MW-102 well protector being removed with the drill rig.



Drill team removing the monitoring well casing and screen from monitoring well GMMW-115S.



Drill team removing the monitoring well casing and screen from monitoring well GMMW-124D.



Drill team removing the monitoring well casing and screen from monitoring well GMMW-124D.



The area where monitoring wells GMMW-124S and GMMW-124D were formerly located.

SPRINGFIELD, IL 62761

		SEALING FORM			
	rodinario de arbitale sumanimentale de constante de arbitale de la constante de la constante de la constante d 11 - 11.				
TYPE	OR PRESS FIRMLY ormishall be submitted to this Department or the local heal	A	LOCAL	HEALTH DEP	ARTMENT
monit requir	orm shall be submitted to this Department of the local heal oring well is sealed. Such wells are to be sealed not more th rements in the Water Well Construction Code: <u>THE LOCA</u> RTMENT MUST BE NOTIFIED AT LEAST 48 HOURS	an 30 days after they LHEALTH DEPAR	are abandoned TMENT OR RE	in accordance wi <u>GIONAL PUBL</u>	th the sealing
1	Ownership (Name of Controlling Party)	12-5			
1.	Ownership (Name of Controlling Party) 718C	1011	<u> </u>		,
2.	Well Location State Street + 1 Address - Lot Number	(t') theet	City	County	Kidifon
	General Description Township 30 (N)(S)	Range 10 W	_(E)(W)	Section	24
	Quarter of theQua	arter of the	Quarte	er	
3.	Year Drilled Unknown				
4.	Drilling Permit Number (and date, if known)				_
5.	Type of Well Bored Drilled O	ther		·	
6.	Total Depth	(inches) 2			
7.	Formation clear of obstructionYes	_No			
8.	DETAILS OF PLUGGING				
	Filled with Bentonite Chips (cement or other materials)	from25_	to Z	ft.	
	Kind of plug	from	to	ft.	
	Filled with	from	to	ft.	
	Kind of plug	from	to	ft.	
	Filled with	from	to	ft.	
	Kind of plug	from	to	ft.	
9.	CASING RECORD Upper 2 feet of casing removed	Yes	No		
10.	Date well was sealed Month July Day		2005.		
11.	Licensed water well driller or other person approved by	y the Department pe	rforming well se	ealing.	
	Terra Drill	092	-0068	57	
	Name 500 E_Street	Complete Licens			
	<u>SOU E Street</u> Address	City City	<u>^</u>	IL 6226	<u>1</u> 5
	Muni 693	€ny v		DIAIC/ LL	

SPRINGFIELD, IL 62761

WATER WELL SEALING FORM 是是是这些,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们 第一章

TVDE	OR PRESS FIRMLY $MU - 100$		TURN ALL COPIES TO IDPH OR OCAL HEALTH DEPARTMENT
	or FRESS FIRME!		
monit	oring well is sealed. Such wells are to be sealed not more th	ian 30 days after they are aband	oned in accordance with the scaling
	ements in the Water Well Construction Code: <u>THE LOCA</u> RTMENT MUST BE NOTIFIED AT LEAST 48 HOUR:		
DEFA	,		。 1945年 - 1945年 -
1.	Ownership (Name of Controlling Party) ARCA		
2.	Well Location 1200 11. H. Address - Lot Number	Covarity - City	Madison
۵.	Address - Lot Number	City	County
	General Description Township $3/$ (N)(S)	Range /()(W) (E)(W)	Section 24

	Quarter of theQu	arter of theQ	uarter
3.	Year Drilled /MKnown		
4.	Drilling Permit Number (and date, if known)		
5.	Type of Well Bored Drilled C	Other	
6.	Total Depth 21 Diameter	(inches)	
7.	Formation clear of obstructionX Yes		
8.	DETAILS OF PLUGGING		
υ.		0.1	2
	Filled with Senfonite Chips (cement or other materials)	from / _toto	<u>Zft.</u>
	(cement or other materials)		
	Kind of plug	fromto	ft.
	Filled with	fromto	ft.
	Kind of plug	from to	ft.
	Filled with	fromto	ft.
	Kind of plug	fromto	ft.
9.	CASING RECORD Upper 2 feet of casing removed	X Yes No	
10		•	
10.	Date well was scaled Month July Day	Year 2005	'
11.	Licensed water well driller or other person approved b		well sealing.
	Terra Drill Name SW & Street	(192-0	106857
	Name	Complete License Number	
	SW E Street	Valmerer	<u>J_L</u> <u>(2295</u> State/ZIP
	Address	City	State/ZIP

SPRINGFIELD, IL 62761

WATER WELL SEALING FORM

		and a color to the secretary this terms their process of the second color	restablished in the second state of the second	And an experience of the late of the design	project of the contract of the second of
	44 \ 1/3		RETU	URN ALL COPIE	STO IDPHOR
TYPE	OR PRESS FIRMLY The shall be submitted to this Department of the local beautiful to the lo			AL HEALTH DE	
monito	ring well is sealed. Such wells are to be sealed not more th	nan 30 days after the	y are abandon	ed in accordance	with the sealing
	ements in the Water Well Construction Code: <u>THE LOCA</u>			記住 · 過去下海 · 元 · 本五世 · 元内 · 元本 · 本本	STATE OF THE PROPERTY OF THE PARTY OF THE PA
DEPA	RTMENT MUST BE NOTIFIED AT LEAST 48 HOUR.		IING.	可以可是一种的特别。	
1.	Ownership (Name of Controlling Party) ARCA	·DIS			
2.	Well Location 1200 16th Street Address - Lot Number	Cornete (a Tia	Ma	lison
۷.	Address - Lot Number	7 0,000.00	City	Coun	ty
	General Description Township 30 (N)(S)	Range 1060	_(E)(W)	Section	n <u>24</u>
	Quarter of theQu	narter of the	Qua	rter	
3.	Year Drilled [Mknown				
4.	Drilling Permit Number (and date, if known)				
5.	Type of Well Bored Drilled O				_
6.	Total Depth 35 Diameter	r (inches)	2"	·	
7.	Formation clear of obstructionYes	No			
8.	DETAILS OF PLUGGING				
	Filled with Rights to - Charac	· 75	40 2	ft.	
	Filled with Blaton to Chris (cement or other materials)	170111	10	IL•	
	Kind of plug	from	to	ft.	
	Filled with				
	Kind of plug				
	Filled with				
	Kind of plug	from	to	ft.	
9.	CASING RECORD Upper 2 feet of casing removed				
10.	Date well was sealed Month July Day	<u>/2</u> Year_	2005.		
11.	Licensed water well driller or other person approved t	y the Department p	erforming wel	l sealing.	
	Name SOE Street Address		52-00	6857	_
	Name	Complete Licen			
	GOE Street	Valmen	2.	IL 622	£5
	Address	City		State/ZIP	- ,

SPRINGFIELD, 1L 62761

WATER WELL SEALING FORM 是更多的,我们就是一个人的,我们就是一个人的,我们就是一个人的,我们就是一个人的,我们也不是一个人的,我们也不是一个人的,我们就是一个人的人的,我们就是一个人的 RETURN ALL COPIES TO IDPH OR GMMW-117 TYPE OR PRESS FIRMLY LOCAL HEALTH DEPARTMENT This form shall be submitted to this Department of the local health department not more than 30 days after a water well, boring or monitoring well is sealed. Such wells are to be sealed not more than 30 days after they are abandoned in accordance with the sealing. requirements in the Water Well Construction Code. THE LOCAL HEALTH DEPARTMENT OR REGIONAL PUBLIC HEALTH DEPARTMENT MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO SEALING. Ownership (Name of Controlling Party) ARCANTC 1. Well Location 1726 Rissell Ave 2. Township 3λ (N)(S) Range WW General Description __Quarter of the _____Quarter of the _____ Quarter Year Drilled 2000 3. Drilling Permit Number (and date, if known) 4. Bored_____ Drilled_____ Other_____ Type of Well 5. Total Depth 24 Diameter (inches) 21 6. Formation clear of obstruction Yes _____No 7. **DETAILS OF PLUGGING** 8. Filled with Benforite Chas from 24 to 2 ft. (cement or other materials) Kind of plug from to ft. Filled with ______from _____to _____ft. Kind of plug from to ft. Filled with _______to _____to _____t. Kind of plug from to ft. CASING RECORD Upper 2 feet of casing removed χ Yes No 9. Date well was sealed Month July Day 12 Year 2005. 10. 11. Licensed water well driller or other person approved by the Department performing well sealing. Name

SPRINGFIELD, IL 62761

WATER WELL SEALING FORM 是我们是我们的是我们有我们会的是我们的,我们就是我们的,我们就是我的人们的,我们就是我们的人,我们就是我们的人们的人,我们就是我们的人们,我们就是我们的人们,我 "我们是我们的是我们的人们,我们是我们的人们是我们的人们是我们的人们是我们的人们是我们的人们是我们的人们是我们的人们是我们的人们是我们的人们是我们的人们是我们的 RETURN ALL COPIES TO IDPH OR 6MMW-118 TYPE OR PRESS FIRMLY LOCAL HEALTH DEPARTMENT This form shall be submitted to this Department or the local health department not more than 30 days after a water well, boring or monitoring well is sealed. Such wells are to be sealed not more than 30 days after they are abandoned in accordance with the sealing requirements in the Water Well Construction Code. THE LOCAL HEALTH DEPARTMENT OR REGIONAL PUBLIC HEALTH DEPARTMENT MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO SEALING. Ownership (Name of Controlling Party) ARCAD 1. Well Location Ven Street, Vinice 2. City Township $3N_{N}(N)(S)$ General Description Quarter of the Quarter of the Quarter Year Drilled ___ 2000 3. Drilling Permit Number (and date, if known) 4. Bored_____ Other_____ 5. Type of Well 6. Formation clear of obstruction X Yes No 7. 8. DETAILS OF PLUGGING Kind of plug from to ft. Filled with ______ from _____ to ____ ft. Kind of plug _____ from to ____ ft. Filled with from to ft. Kind of plug _____ from to ft. CASING RECORD Upper 2 feet of casing removed Yes No 9. Date well was sealed Month July Day 12 Year 2005. 10. Licensed water well driller or other person approved by the Department performing well sealing. 11. DE Freet Valneyer IL

9.

10.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH DIVISION OF ENVIRONMENTAL HEALTH 525 W. JEFFERSON ST.

SPRINGFIELD, IL 62761
WATER WELL SEALING FORM

ruperparturation de la completa del completa de la completa de la completa del completa de la completa del la completa del la completa de la completa del la com RETURN ALL COPIES TO IDPH OR MMW - 119 TYPE OR PRESS FIRMLY LOCAL HEALTH DEPARTMENT This form shall be submitted to this Department or the local health department not more than 30 days after a water well, boring or monitoring well is sealed. Such wells are to be sealed not more than 30 days after they are abandoned in accordance with the sealing requirements in the Water Well Construction Code. THE LOCAL HEALTH DEPARTMENT OR REGIONAL PUBLICHEALTH DEPARTMENT MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO SEALING. Ownership (Name of Controlling Party)___ARCADIS 1. 2. City Township 30 (N)(S) Range 10W (E)(W) Section 35 General Description Quarter of the _____Quarter of the _____ Quarter Year Drilled 3. Drilling Permit Number (and date, if known) 4. Bored Drilled V Other 5. Type of Well Total Depth 22 Diameter (inches) 24 6. 7. 8. DETAILS OF PLUGGING

Kentonite Chips from 72 to 2 ft. (cement or other materials)

Kind of plug from to ft.

Filled with ______ from _____ to ____ ft.

Kind of plug from to ft.

Filled with ______to ____to ____ts

Kind of plug from to ft.

CASING RECORD Upper 2 feet of casing removed X Yes No

Date well was scaled Month July Day 12 Year 205.

11.	Licensed water well driller or	other person approved by the Department performing wel	roved by the Department performing well scaling.		
	Terra Dril	092-000	<u>OG 2 - OOC \$ 57</u> Complete License Number		
	Name	Complete License Number			
	COT C.	16.1		1 4	_

Address City (State/ZIP

SPRINGFIELD, IL 62761

WATER WELL SEALING FORM RETURN ALL COPIES TO IDPH OR LOCAL HEALTH DEPARTMENT TYPE OR PRESS FIRMLY This form shall be submitted to this Department or the local health department not more than 30 days after a water well; boring or monitoring well is sealed. Such wells are to be sealed not more than 30 days after they are abandoned in accordance with the sealing requirements in the Water Well Construction Code. THE LOCAL HEALTH DEPARTMENT OR REGIONAL PUBLIC HEALTH DEPARTMENT MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO SEALING. Ownership (Name of Controlling Party) 1. 2. Well Location City Range /UW) (E)(W) Township (N)(S) General Description Quarter of the _____Quarter of the Year Drilled 2000 3. Drilling Permit Number (and date, if known) 4. Bored ____ Drilled X Other_____ 5. Type of Well _____ Diameter (inches)______ 2 "_____ Total Depth 6. Formation clear of obstruction \(\chi \) Yes No 7. 8. **DETAILS OF PLUGGING** Filled with (cement or other materials) Kind of plug from to Filled with ______ from _____ to ____ ft. Kind of plug from to ft. Filled with______ from to ft. Kind of plug____ from to ft. X Yes No CASING RECORD Upper 2 feet of casing removed 9. Date well was sealed Month July Day 12 Year 2005. 10. Licensed water well driller or other person approved by the Department performing well sealing. 11. Name

SPRINGFIELD, IL 62761

WATER WELL SEALING FORM

TYPE	OR PRESS FIRMLY	$n + \langle -1 \rangle$	TURN ALL COPIES TO IDPH OR CAL HEALTH DEPARTMENT
monite	nrm shall be submitted to this Department or the local he pring well is sealed. Such wells are to be sealed not more ements in the Water Well Construction Code. THE LOC	than 30 days after they are abando	ned in accordance with the sealing
DEPA	RTMENT-MUST BEINOTHFIED ATELEAST 48 HOU	RS PRIOR TO SEALING.	,如此是"不是",是"就是"的是
1.	Ownership (Name of Controlling Party)	CADIS	
2.	Well Location Address - Lot Number	Madison City	Marlison County
		Range <u>じい</u> (E)(W)	Section 36
	Quarter of theQ	Quarter of theQu	ıarter
3.	Year Drilled 2000		
4.	Drilling Permit Number (and date, if known)		
5.	Type of Well Bored Drilled	Other	
6.	Total Depth 20 Diameter		
7.	Formation clear of obstruction Yes	No	
8.	DETAILS OF PLUGGING		
	Filled with Bentanite Chas (cement or other materials)	from20to2	ft.
	Kind of plug	fromto	ft.
	Filled with	fromto	ft.
	Kind of plug	fromto	ft.
	Filled with	fromto	ft.
	Kind of plug	fromto	ft.
9.	CASING RECORD Upper 2 feet of casing removed	Yes No	
10.	Date well was sealed Month July Day	12 Year 2005	- '
11.	Licensed water well driller or other person approved	by the Department performing w	ell sealing.
	Term Drill	(792 - 000	857
	Name Sco E Street Address	Complete License Number	
	Address Street	Volneyer City	LL 62295 State/7IB
	Auul 692	CILY /	DIME/LIF

SPRINGFIELD, IL 62761

WATER WELL SEALING FORM 。 《《表表表表出版》》(1945年)(1945年)(1945年)(1945年)(1945年)(1945年)(1946年)(1946年)(1946年)(1946年)(1946年)(1946年)(1946年)(1946年)(1

TYPE	OR PRESS FIRMLY	GMMW-	122		RN ALL COPIES T L HEALTH DEPA	
monito requir	rm shall be submitted to this Depart ring well is sealed. Such wells are to ements in the Water Well Constructio RTMENT MUST BE NOTIFIED AT	pe sealed not more that the code of the co	ian 30 days after the Lift: ALTH DEPAL	y are abandone RTMENT OR R	d in accordance wit EGIONAL PUBLE	h the sealing
1.	Ownership (Name of Controlling P					
2.	Well Location Earland Address - Lot Nur	S+ nber	Madi8	City	Mach's County	(1)
	General Description Township	(N)(S)	Range_10W	_(E)(W)	Section	36
	Quarter of t	heQu	arter of the	Quai	rter	
3.	Year Drilled 200					
4.	Drilling Permit Number (and date,	if known)				
5.	Type of Well Bored	Drilled C	Other			
6.	Total Depth 21	Diameter	(inches)	<u> 2</u>		
7.	Formation clear of obstruction	Yes	No			
8.	DETAILS OF PLUGGING					
	Filled with Benfante (cement or other r	naterials)	from21	to2	ft.	
	Kind of plug		from	to	ft.	
	Filled with		from	to	ft.	
	Kind of plug		from	to	ft.	
	Filled with		from	to	ft.	
	Kind of plug		from	to	ft.	
9.	CASING RECORD Upper 2 feet	of casing removed	Yes	No		
10.	Date well was sealed Month	Til Day_	/2 Year	2005.		
11.	Licensed water well driller or other	person approved b	y the Department p	erforming well	sealing.	
	Tem Sill		092.	-006857		_
	Name SCO E Store		Complete Licen	se Number		
	Address Store	<u>t</u>	Valmaje	<u> </u>	TL 6229 State/ZIP	15

SPRINGFIELD, IL 62761

WATER WELL SEALING FORM

TVDF	OR PRESS FIRMLY GMMW - 1		RN ALL COPIES TO IDPH OR LL HEALTH DEPARTMENT
This formation	rm shall be submitted to this Department of the local healt ring well is sealed. Such wells are to be sealed not more tha ements in the Water Well Goustruction Code. THE LOCAL	h department not more than 30 da n 30 days after they are abandone HEALTH DEPARTMENT OR R	ys after a water well, boring or d in accordance with the scaling EGIONAL PUBLIC HEALTH
DEPA	Ownership (Name of Controlling Party)	7c	
2.	Well Location 17th Arzet and Management Address - Lot Number	dison Ave Madida	on Madifan County
	General Description Township 30 (N)(S)		Section 25
	Quarter of the Quar	ter of theQuar	ter
3.	Year Drilled <u>2000</u>		
4.	Drilling Permit Number (and date, if known)		
5.	Type of Well Bored Otl		
6.	Total Depth 22 Diameter (inches)2"	
7.	Formation clear of obstruction Yes	_No	
8.	DETAILS OF PLUGGING		·
	Filled with Britonice Chiys (cement or other materials)	from	ft.
	Kind of plug	fromto	ft.
	Filled with	fromto	ft.
	Kind of plug	fromto	ft.
	Filled with	fromto	ft.
	Kind of plug	fromto	ft.
9.	CASING RECORD Upper 2 feet of casing removed	YesNo	
10.	Date well was sealed Month 10 Day Day	12 Year 2005.	
11.	Licensed water well driller or other person approved by	•	sealing.
	Terra Drill	<u> 092 - 006857</u> Complete Licensc Number	7
	Name Soo & Street	Complete License Number	
	Address	Valneyer City	LL C2293 State/ZIP

SPRINGFIELD, IL 62761
WATER WELL SEALING FORM

1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1.在中华中的12.12.12.12.12.12.12.12.12.12.12.12.12.1	(19)2年上海 12 K.L. 22 注重数字条件在全线上14 E.L. 12 在2 E.L. 12 E.L	12000011100000000000000000000000000000
- Additional and	•		RN ALL COPIES TO IDPH OR
TYPE	OR PRESS FIRMLY GMMW - 12	LOCA	L HEALTH DEPARTMENT
This	orm shall be submitted to this Department of the local heal	th department not more than 30 da	ys after a water well-boring or
monite	ring well is sealed. Such wells are to be sealed not more tha	in 30 days after they are abandoned	in accordance with the sealing
reduir	ements in the Water Well Construction Code: <u>THE LOCAL</u>	HEALTH DEPARTMENT OR R	EGIONAL PUBLIC HEALTH
DEPA	RTMENT MUST BE NOTIFIED AT LEAST 48 HOURS	PRIOR TO SEALING	等是可能可以可能可能的
1.	Ownership (Name of Controlling Party) ARCA	DIS	
	Well Location / With Street Address - Lot Number		
2.	Well Location / leth Street	Coranita City	Machison
	Address - Lot Number	City (Ćounty
	General Description Township 30 (N)(S)	100.	Section 24
	General Description Township $\angle \mathcal{N}$ (N)(S)	Range $lOW_{\bullet}(E)(W)$	Section
	Quarter of theQua	rter of theQuar	ter
3.	Year Drilled 200		
J.	Teal Dillied		
4.	Drilling Permit Number (and date, if known)		
		-	
5.	Type of Well Bored Drilled Ot	her	
6.	Total Depth 27 Diameter ((inches)	
_	- · · · · · · · · · · · · · · · · · · ·		
7.	Formation clear of obstructionX Yes	_No	
8.	DETAILS OF PLUGGING		
0.			
	Filled with Bentonite Quana	from 27 to /	ft.
	Filled with Rentonite Sung (cement or other materials)		 · ··
	,		
	Kind of plug	fromto	ft.
	Filled with	fromto	ft.
	TV		-
	Kind of plug	fromto	ft.
	Filled with	from to	ſt.
	Fined With		
	Kind of plug	fromto	ſt.
			0 4
9.	CASING RECORD Upper 2 feet of casing removed		- over drilled to
	, , ,	10	271
10.	Date well was sealed Month July Day	13 Year 205.	71
	1		
11.	Licensed water well driller or other person approved by	• •	-
	To a Nill	Man Mor	7
	Name Soo E Street Address	Complete Lies - Number	<u> </u>
	rvaine	Complete License Number	
	GOD E. Street	/ kil menter	TI 6.2166
	Address	City	State/7IP
	. Addi dob	~···j	CHECKEL

SPRINGFIELD, IL 62761
WATER WELL SEALING FORM

TYPE	OR PRESS FIRMLY GMMW		TURNALL COPIES TO IDPH OR CAL HEALTH DEPARTMENT
This f monit	orm shall be submitted to this Department or the local her oring well is sealed. Such wells are to be sealed not more the rements in the Water Well Construction Gode, THE LOCA RTMENT MUST BE NOTIFIED AT LEAST 48 HOUR	ulth department not more than 30 han 30 days after they are abando ALHEALTH DEPARTMENT OF	days after a water well, boring or med in accordance with the sealing REGIONAL PUBLIC HEALTH
1.	Ownership (Name of Controlling Party)	25.64	
2.	Well Location Address - Lot Number	Cocarite City	Madison
	General Description Township $3 \land (N)(S)$		Section <u>24</u>
	Quarter of theQu	arter of theQ	uarter
3.	Year Drilled 2000		
4.	Drilling Permit Number (and date, if known)		
5.	Type of Well Bored DrilledX (Other	
6.	Total Depth Compared Diameter	r (inches)	
7.	Formation clear of obstructionX_Yes	No	
8.	DETAILS OF PLUGGING		
	Filled with Rentonite Slury (cement or other materials)	from <u>40</u> to!	ft.
	Kind of plug	fromto	ft.
	Filled with	fromto	ft.
	Kind of plug	fromto	ft.
	Filled with	fromto	ft.
	Kind of plug	fromto	ft.
9.	CASING RECORD Upper 2 feet of casing removed		- over drilled to
10.	Date well was sealed Month July Day	13 Year 2005	-·
11.	Licensed water well driller or other person approved by	by the Department performing w	ell sealing.
	Tena Drill	<u> </u>	6857
	Name 500 E Street	,	
	Address 4-reet	Valmey er City	LL 62295 State/ZIP

SPRINGFIELD, IL 62761
WATER WELL SEALING FORM

	or press firmly CMMW	12r	RETURN ALL COPIES TO IDPH OR LOCAL HEALTH DEPARTMENT
This fo	rm shall be submitted to this Department of the local health ring well is sealed. Such wells are to be sealed not more than inents in the Water Well Coast ruction Code. THE LOCAL I	department not more than 30 days after they are abai	30 days after a water well, boring or idoned in accordance with the sealing
DEPAI	RTMENT MUST BE NOTIFIED AT LEAST 48 HOURS P	RIOR TO SEALING.	學的學學是是一個學學
1.	Ownership (Name of Controlling Party) ARCAN	Z.S	
2.	Well Location 16th Street Address - Lot Number	Gran, Te	City Machison
	General Description Township $(N)(S)$		•
	Quarter of theQuart	er of the	_Quarter
3.	Year Drilled 2000		
4.	Drilling Permit Number (and date, if known)		
5.	Type of Well Bored Drilled Other	er	
6.	Total Depth 29 Diameter (in	ches)2"	
7.	Formation clear of obstructionYes	ło	
8.	DETAILS OF PLUGGING		
	Filled with Bartonite Slung (cement or other materials)	from2 <u>G</u> to	ſt.
	Kind of plug	fromto	ft.
	Filled with	fromto	ft.
	Kind of plug	_fromto	ft.
	Filled with	fromto	ft.
	Kind of plug		
	CASING RECORD Upper 2 feet of casing removed		
10.	Date well was scaled Month Tuly Day /	3 Year 2005	·
11.	Licensed water well driller or other person approved by t	he Department performin	g well sealing.
	Terra Drill	092-0	W6857
	Name	Complete License Number	er
	Name Soo E Street Address	Valneyer	IL 62295
	Address	City	State/ZIP

WATER WELL SEALING FORM

(Applicate)		には特別機能が必要が出来る。 1つ:	RETU	IRN ALL COPIES	TO IDPH OR
	OR PRESS FIRMLY (MAW)	- 126	LOCA	AL HEALTH DEI	PARTMENT
monito requir	orm shall be submitted to this Department or the local hea bring well is sealed. Such wells are to be sealed not more the ements in the Water Well Gonstruction Code: THE LOCA RTMENT MUST BE NOTIFIED AT LEAST 48 HOURS	ian 30 days after the <u>L'HEALTH DEPA</u>	ey are abandone <u>RTMENT OR R</u>	d in accordance w REGIONAL PUBL	ith the sealing ICHEALTH
1.	Ownership (Name of Controlling Party) ARCA)	27.0			
2.	Well Location () lant St and Nice Address - Lot Number	dringhaus	Auc. Gra.	rite City Count	<u>Madison</u>
	General Description Township (N)(S)	Range 10W	(E)(W)	Section	1_24_
	Quarter of theQu	arter of the	Quar	rter	
3.	Year Drilled 2001				
4.	Drilling Permit Number (and date, if known)				_
5.	Type of Well Bored Drilled O)ther		·····	-
6.	Total Depth 26 Diameter	(inches)2	((
7.	Formation clear of obstructionYes	No			
8.	DETAILS OF PLUGGING				
	Filled with Bartonita Chips (cement or other materials)	from2 <i>G</i>	to	ft.	
	Kind of plug	from	to	ft.	
	Filled with	from	to	ft.	
	Kind of plug	from	to	ft.	
	Filled with	from	to	ft.	
	Kind of plug	from	to	ft.	
9.	CASING RECORD Upper 2 feet of casing removed	XYes	No		
10.	Date well was sealed Month Day Day	12 Year	· 2005.		
11.	Licensed water well driller or other person approved b	y the Department	performing well	sealing.	
	Term Drill	09	2-00685	57	
	Name 500 E Street	Complete Lice			
	SOU E Street Address	Valores City 1	161	IL 6.22 State/ZIP	<u>4</u> 5
	Vanic22	City /		State/LII'	

WATER WELL SEALING FORM

This form shall be submitted to this Department or the local health department not more than 30 days after a water well, boring monitoring well is sealed. Such wells are to be sealed not more than 30 days after they are abandoned in accordance with the sea requirements in the Water Well Construction Gode. THE LOCAL HEALTH DEPARTMENT OR REGIONAL PUBLIC HEALTH DEPARTMENT OR REGION	ing
1. Ownership (Name of Controlling Party) ARCADIS 2. Well Location / C fth Street	
2. Well Location / C th Street	
General Description Township 3\(\textit{N}\)(S) Range \(\left(\textit{W}\) \(\textit{E}\)(W) Section \(\frac{24}{24}\) Quarter of theQuarter Quarter A	
General Description Township 3\(\textit{N}\)(S) Range \(\left(\textit{W}\) \(\textit{E}\)(W) Section \(\frac{24}{24}\) Quarter of theQuarter Quarter A	
Quarter of theQuarter of theQuarter 3. Year Drilled	
3. Year Drilled 200 4. Drilling Permit Number (and date, if known) 5. Type of Well Bored Drilled X Other 6. Total Depth 28 Diameter (inches) 211 7. Formation clear of obstruction X Yes No 8. DETAILS OF PLUGGING Filled with Script Slavy from 28 to 1 ft. (cement or other materials) Kind of plug from to ft.	
4. Drilling Permit Number (and date, if known) 5. Type of Well Bored Drilled Other 6. Total Depth 28 Diameter (inches) 2 t 7. Formation clear of obstruction Yes No 8. DETAILS OF PLUGGING Filled with	
5. Type of Well Bored Drilled Other	
6. Total Depth	
7. Formation clear of obstruction	
8. DETAILS OF PLUGGING Filled with Sentonite Slavey from 28 to 1 ft. (cement or other materials) Kind of plug from to ft.	
Filled with Section to Slave from 28 to 1 ft. (cement or other materials) Kind of plug from to ft.	
Kind of plugfromtoft.	
Filled withtott.	
Kind of plug from to ft.	
Filled withfromtoft.	
Kind of plugfromtoft.	
9. CASING RECORD Upper 2 feet of casing removed X Yes No - Overalrilled to 28	
10. Date well was sealed Mouth July Day 13 Year 2055.	
11. Licensed water well driller or other person approved by the Department performing well sealing.	
Term Drill 092-006857	
Name Term Drill On 2-006857 Complete License Number Value Value VII 6 2295	
Address Value IL 62295 City City State/ZIP	

SPRINGFIELD, IL 62761

WATER WELL SEALING FORM

PE OR PRESS FIRMLY	GMMW-	1150		LOCAL HEALTH DEPARTMENT			
is form shall be submitted to this Depart onitoring well is sealed. Such wells are to quirements in the Water Well Construction	be sealed not more th	an 30 days after tl	t more than 30 day icy are abandoned	s after a water well, boring in accordance with the seali			
PARTMENT MUST BE NOTIFIED A							
Ownership (Name of Controlling I	Party) ARCA	075					
Well Location (the St. Address - Lot Nu	reet,	Granite 1	City	Madison County			
General Description Township	p = (N)(S)		Ţ	Section 24			
Quarter of (theQu	arter of the	Quart	er			
Year Drilled 2000							
Drilling Permit Number (and date	, if known)						
Type of Well Bored	DrilledC	Other	·				
Total Depth 41	Diameter	(inches)	2"				
Formation clear of obstruction	Yes	No					
DETAILS OF PLUGGING							
Filled with Renton; to (cement or other)		from	to	ft.			
Kind of plug		from	to	ft.			
Filled with	·····	from	to	ft.			
Kind of plug		from	to	ft.			
Filled with		from	to	ft.			
Kind of plug		from	to	ft.			
CASING RECORD Upper 2 feet	of casing removed	XYes	No -	Overdrilled to 41			
Date well was sealed Month	Day_	/3 Yes	ır <u>2005</u> .				
Licensed water well driller or othe	l .			ealing.			
Tima Drill			792-00683	57			
Name Soo E Stre	,	Complete Lic	ense Number	<i>—</i> , , , , ,			
Address Address	et	City	1er	IL 62295 State/7.IP			

Address

ILLINOIS DEPARTMENT OF PUBLIC HEALTH DIVISION OF ENVIRONMENTAL HEALTH 525 W. JEFFERSON ST.

SPRINGFIELD, IL 62761

WATER WELL SEALING FORM 是是是是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人, 第一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就 RETURN ALL COPIES TO IDPH OR (-MMW-116S LOCAL HEALTH DEPARTMENT TYPE OR PRESS FIRMLY This form shall be submitted to this Department or the local health department not more than 30 days after a water well, boring or monitoring well is sealed. Such wells are to be sealed not more than 30 days after they are abandoned in accordance with the sealing requirements in the Water Well Construction Code. THE LOCAL HEALTH DEPARTMENT OR REGIONAL PUBLIC HEALTH DEPARTMENT MUST BE NO TIFTED AT LEAST 48 HOURS PRIOR TO SEALING. Ownership (Name of Controlling Party) ARCADIS 1. Well Location 16th Street 2. Township (N)(S) Section 24 Range $/O\omega$ (E)(W) General Description Quarter of the _____Quarter of the ____ Quarter Year Drilled 2000 3. Drilling Permit Number (and date, if known) 4. Bored_____ Drilled___X__ Other______ 5. Type of Well 6. 7. DETAILS OF PLUGGING 8. Kind of plug from to ft. Filled with _______to _____to ____t. Kind of plug from to ft. Filled with ______to ____to ____t. Kind of plug_______from_____to_____ft. CASING RECORD Upper 2 feet of casing removed Yes No 9. Date well was sealed Month July Day 13 Year 2005. 10. 11. Licensed water well driller or other person approved by the Department performing well sealing. Name Valueyer Ic

SPRINGFIELD, IL 62761

WATER WELL SEALING FORM

TYPE (OR PRESS FIRMLY (MM)	1-1161)		RN ALL COPIES T L HEALTH DEPA	
monitor	rm shall be submitted to this Department of the local her ring well is scaled. Such wells are to be scaled not more t ments in the Water Well Construction Code. <u>THE LOC</u>	han 30 days after the <u>AL HEALTH DEPAR</u>	y are abandoned <u>ETMENT OR R</u>	l in accordance with	i the sealing
DEPAR	TIMENT MUST BE NOTIFIED AT LEAST 48 HOUR	SPRIOR TO SEAD	ING.		
1.	Ownership (Name of Controlling Party)	ADIS			
2.	Well Location 16th Freet	Granite	City	Madison	
				County	2.1
	General Description Township (N)(S)	-		Section _	24
	Quarter of the Qu	ıarter of the	Quar	ter	
3.	Year Drilled 2000				
4.	Drilling Permit Number (and date, if known)				
5.	Type of Well Bored Drilled	Other			
6.	Total Depth Diamete	r (inches)	u		
7.	Formation clear of obstructionYes	No			
8.	DETAILS OF PLUGGING				
	Filled with 3 ton, to Chips (cement or other materials)	from_ <i>44</i>	to2	ft.	
	Kind of plug	from	to	ft.	
	Filled with	from	to	ft.	
	Kind of plug	from	to	ft.	
	Filled with	from	to	ft.	
	Kind of plug	from	to	ft.	
9.	CASING RECORD Upper 2 feet of casing removed	<u> </u>	No		
10.	Date well was sealed Month July Day	13 Year	2005.		
11.	Licensed water well driller or other person approved l	by the Department p	erforming well	sealing.	
	Teria Drill	09	2-0068	7	
	Name 500 E Street	Complete Licen		- /-	_
	Address	<u>Valmer</u> City (<u>~</u>	TL 6229 State/ZIP	3



NL INDUSTRIES/TARACORP SUPERFUND SITE GROUP

Leed Environmental, Inc. Van Reed Office Plaza 2209 Quarry Drive, Suite C-35 Reading, PA 19609 Telephone: 610/670-7310

Telecopy: 610/670-7311

September 19, 2005

First Class Mail

Mr. Brad Bradley U.S. Environmental Protection Agency 77 West Jackson Boulevard Chicago, IL 60604-3590

> RE: NL Industries/Taracorp Superfund Site; Granite City, Illinois Monitoring Well Abandonment Report

Dear Mr. Bradley:

For your records, enclosed are two copies of the Monitoring Well Abandonment Report, prepared by ARCADIS G&M, Inc. on behalf of the NL Industries/Taracorp Superfund Site Group, which documents the abandonment of 18 monitoring wells at the NL Industries/Taracorp Superfund Site in Granite City, Illinois, in July 2005.

Please contact this office if additional information or clarification is needed.

Very truly yours,

LEED ENVIRONMENTAL, INC.

Project Coordinator

enclosures

cc: Mr. Doyle Wilson – Illinois Environmental Protection Agency
(with two copies of enclosures, by first class mail)

Technical Committee, NL Industries/Taracorp Superfund Site Group
(w/enclosure, by first class mail)